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APPLIC	CATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.					
10/	511,719	11/26/2004	In-San Kim	WON-0002	9860					
262 LI		7590 04/18/200° YRRELL P.C.	1	EXAM	INER					
	E. MAIN S'			FOSTER, CI	IRISTINE E					
M	ARLTON, N	11 08623	_	ART UNIT	PAPER NUMBER					
				1641						
SHORTE	NED STATUTOR	RY PERIOD OF RESPONSE	MAIL DATE	DELIVER	Y MODE					
	30 E	DAYS	04/18/2007	PAF	PER					

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.



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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION		ATTORNEY DOCKET NO.
10/511,719	11/26/04	KIM		WON-0002
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			Fos.rea	, CHRISTINE
	,		ART UNIT	PAPER
			1641	20070412

Please find below and/or attached an Office communication concerning this application or proceeding.

### **Commissioner for Patents**

The amendment filed on 2/20/07 canceling all claims drawn to the elected invention and presenting only claims drawn to a non-elected invention is non-responsive (MPEP § 821.03). The remaining claims are not readable on the elected invention because the originally presented claims were drawn to methods and kits for diagnosing renal diseases, hepatic diseases, rheumatoid arthritis or cardiovascular diseases. The elected species of disease was "diabetic renal disease". By contrast, the newly presented claims are not drawn to methods of diagnosing disease. Rather, they relate to diagnosis of "damage to the kidneys" and therefore do not read on the elected invention of methods of diagnosing renal diseases, hepatic diseases, rheumatoid arthritis or cardiovascular diseases, nor on the elected species of diagnosing diabetic renal disease.

In addition, the amendment is not fully responsive to the Office communication mailed 10/18/06 for the reason(s) set forth on the attached Notice to Comply With the Sequence Rules or CRF Diskette Problem Report. Please direct all replies to the United States Patent and Trademark Office via one (1) of the following:

- 1. Electronically submitted through EFS-Bio (<a href="http://www.uspto.gov/ebc/efs/downloads/documents.htm">httm</a>, EFS Submission User Manual ePAVE)
  - 2. Mailed to:

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Commissioner for Patents

P.O. Box 22313-1450 Alexandria, VA 22313-1450

3. Hand Carry, Federal Express, United Parcel Service or other delivery service to:

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Randolph Building

401 Dulany Street, Alexandria, VA 22314

Any inquiry concerning this communication should be directed to Examiner Christine Foster, Art Unit 1641, whose telephone number is (571) 272-8786. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 273-8300.

Since the above-mentioned amendment appears to be a bona fide attempt to reply, applicant is given a TIME PERIOD of ONE (1) MONTH or THIRTY (30) DAYS, whichever is longer, from the mailing date of this notice within which to supply the omission or correction in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD UNDER 37 CFR 1.136(a) ARE AVAILABLE.

LONG V. LE 94/3/07
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

#### Application No. Applicant(s) Kim, In-San 10/511,719 **Notice to Comply** Examiner Art Unit C. Foster 1641

## NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE

DISCLOSURES
Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).
The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):
1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).
2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
7. Other:
Applicant Must Provide: ☑ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
☐ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment specifically directing its entry into the application.
A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).
For questions regarding compliance to these requirements, please contact:
For Rules Interpretation, call (703) 308-4216 or (703) 308-2923 For CRF Submission Help, call (703) 308-4212 or 308-2923 Patentin Software Program Support
Technical Assistance

PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR REPLY

### STIC Biotechnology Systems Branch

## RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Source:

Date Processed by STIC:

10/511,7194

02/27/2007

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.4.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail. Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom. Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

- 1. EFS-Bio (<a href="http://www.uspto.gov/ebc/efs/downloads/documents.htm">httm</a>, EFS Submission User Manual ePAVE)
- 2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
- Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):
   U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street,
   Alexandria, VA 22314

Revised 01/10/06

### **Raw Sequence Listing Error Summary**

ERROR DETECTED	SUGGESTED CORRECTION SERIAL NUMBER: 10/5/1, 7/9 A
ATTN: NEW RULES CASES:	PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE
IWrapped Nucleics Wrapped Aminos	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
2Invalid Line Length	The rules require that a line not exceed 72 characters in length. This includes white spaces.
Misaligned Amino Numbering	The numbering under each 5 <sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
4Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
5Variable Length	Sequence(s)contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
6PatentIn 2.0 "bug"	A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
7Skipped Sequences (OLD RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:  (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  This sequence is intentionally skipped  Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
8Skipped Sequences . (NEW RULES)	Sequence(s) missing. If Intentional, please insert the following lines for each skipped sequence. <210> sequence id number <400> sequence id number 000
9Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing.  Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.  In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
Invalid <213> Response	Per 1.823 & Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence. (see item 11 below)
Use of <220>	Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section or use "chemically synthesized" as explanation. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32), also Sec. 1.823 of Sequence Rules
/ 12PatentIn 2.0 "bug"	Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
13 Misuse of n/Xaa	"n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid



IFW16

RAW SEQUENCE LISTING DATE: 02/27/2007 PATENT APPLICATION: US/10/511,719A TIME: 11:08:37

Input Set : A:\PTO.RJ.txt

Output Set: N:\CRF4\02272007\J511719A.raw

2 <110> APPLICANT: REGEN Biotech. Inc. 4 <120> TITLE OF INVENTION: The method for measuring the amount of Betai protein and diagnostic kit using the same 7 <130> FILE REFERENCE: 2fpo-10-14 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/511,719A C--> 9 <141> CURRENT FILING DATE: 2004-11-26 Does Not Comply Corrected Diskerte Needed 9 <160> NUMBER OF SEQ ID NOS: 12

### ERRORED SEQUENCES

B--> 47 145

E--> 56

13 <210> SEQ ID NO: 1

14 <211> LENGTH: 683 15 <212> TYPE: PRT 16 <213> ORGANISM: Homo sapiens 18 <400> SEQUENCE: 1 19 Met Ala Leu Phe Val Arg Leu Leu Ala Leu Ala Leu Ala Leu Ala Leu E--> 20 1 15 22 Gly Pro Ala Ala Thr Leu Ala Gly Pro Ala Lys Ser Pro Tyr Gln Leu E--> 23 20 25 25 Val Leu Gln His Ser Arg Leu Arg Gly Arg Gln His Gly Pro Asn Val 35 40 E--> 26 28 Cys Ala Val Gln Lys Val Ile Gly Thr Asn Arg Lys Tyr Phe Thr Asn 50 - 55 B--> 29 31 Cys Lys Gln Trp Tyr Gln Arg Lys Ile Cys Gly Lys Ser Thr Val Ile E--> 32 65 70 34 Ser Tyr Glu Cys Cys Pro Gly Tyr Glu Lys Val Pro Gly Glu Lys Gly 95 85 37 Cys Pro Ala Ala Leu Pro Leu Ser Asn Leu Tyr Glu Thr Leu Gly Val E--> 38 100 105 40 Val Gly Ser Thr Thr Thr Gln Leu Tyr Thr Asp Arg Thr Glu Lys Leu E--> 41 120 43 Arg Pro Glu Met Glu Gly Pro Gly Ser Phe Thr Ile Phe Ala Pro Ser E--> 44 135 46 Asn Glu Ala Trp Ala Ser Leu Pro Ala Glu Val Leu Asp Ser Leu Val

49 Ser Asn Val Asn Ile Glu Leu Leu Asn Ala Leu Arg Tyr His Met Val

52 Gly Arg Arg Val Leu Thr Asp Glu Leu Lys His Gly Met Thr Leu Thr

55 Ser Met Tyr Gln Asn Ser Asn Ile Gln Ile His His Tyr Pro Asn Gly

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11 <170> SOFTWARE: KopatentIn 1.71

Input Set : A:\PTO.RJ.txt

Output Set: N:\CRF4\02272007\J511719A.raw 58 Ile Val Thr Val Asn Cys Ala Arg Leu Leu Lys Ala Asp His His Ala B--> 59 210 215 61 Thr Asn Gly Val Val His Leu Ile Asp Lys Val Ile Ser Thr Ile Thr 240 E--> 62 225 230 64 Asn Asn Ile Gln Gln Ile Ile Glu Ile Glu Asp Thr Phe Glu Thr Leu 245 E--> 65 67 Arg Ala Ala Val Ala Ala Ser Gly Leu Asn Thr Met Leu Glu Gly Asn E--> 68 260 70 Gly Gln Tyr Thr Leu Leu Ala Pro Thr Asn Glu Ala Phe Glu Lys Ile 275 E--> 71 73 Pro Ser Glu Thr Leu Asn Arg Ile Leu Gly Asp Pro Glu Ala Leu Arg B--> 74 290 295 76 Asp Leu Leu Asn Asn His Ile Leu Lys Ser Ala Met Cys Ala Glu Ala E--> 77 305 320 79 Ile Val Ala Gly Leu Ser Val Glu Thr Leu Glu Gly Thr Thr Leu Glu B--> 80 325 82 Val Gly Cys Ser Gly Asp Met Leu Thr Ile Asn Gly Lys Ala Ile Ile 85 Ser Asn Lys Asp Ile Leu Ala Thr Asn Gly Val Ile His Tyr Ile Asp 355 360 88 Glu Leu Leu Ile Pro Asp Ser Ala Lys Thr Leu Phe Glu Leu Ala Ala B--> 89 370 375 91 Glu Ser Asp Val Ser Thr Ala Ile Asp Leu Phe Arg Gln Ala Gly Leu 400 E--> 92 385 390 94 Gly Asn His Leu Ser Gly Ser Glu Arg Leu Thr Leu Leu Ala Pro Leu 405 410 415 97 Asn Ser Val Phe Lys Asp Gly Thr Pro Pro Ile Asp Ala His Thr Arg 420 425 430 100 Asn Leu Leu Arg Asn His Ile Ile Lys Asp Gln Leu Ala Ser Lys Tyr 435 440 103 Leu Tyr His Gly Gln Thr Leu Glu Thr Leu Gly Gly Lys Lys Leu Arg 450 455 106 Val Phe Val Tyr Arg Asn Ser Leu Cys Ile Glu Asn Ser Cys Ile Ala B--> 107 465 . 470 480 109 Ala His Asp Lys Arg Gly Arg Tyr Gly Thr Leu Phe Thr Met Asp Arg 485 490 112 Val Leu Thr Pro Pro Met Gly Thr Val Met Asp Val Leu Lys Gly Asp 500 505 115 Asn Arg Phe Ser Met Leu Val Ala Ala Ile Gln Ser Ala Gly Leu Thr 520 118 Glu Thr Leu Asn Arg Glu Gly Val Tyr Thr Val Phe Ala Pro Thr Asn 530 121 Glu Ala Phe Arg Ala Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly 560 550 · 124 Asp Ala Lys Glu Leu Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu 570 127 Ile Leu Val Ser Gly Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu

585

130 Gln Gly Asp Lys Leu Glu Val Ser Leu Lys Asn Asn Val Val Ser Val

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	264	Leu F	ro	Leu	Ser	Asn	Leu	Tyr	Glu	Thr	Leu	Gly	Val	Val	Gly	Ser	Thr		
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	267	Thr T	'hr	Gln	Leu	Tvr	Thr	Asp	Ara	Thr	Glu	Lvs	Leu	Ara	Pro	Glu	Met		
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B>		-	•		15				_	520					_	525	-			
		T.eu	Glu			Leu	Lvs	Asn	Δen			Ser	Val	Asn	Lvs		Pro			
ъ.		DCu			501	Deu	<b>L</b> 75	7.511		var	Val	Jer	• • •	11011	540	014	110			
B>		*** 7	530		D	•	-1-		535		<b>.</b>	~1	3	11-7		17- 3	T1.			
			АТА	GIU	Pro	Asp			Ala	Thr	Asn	GIA	Val		HIS	vai	11e			- 1
B>								550						555					560	1
•	363	Thr	Asn	Val	Leu	Gln	Pro	Pro	Ala	Asn	Arg	Pro	Gln	Glu	Arg	Gly	Asp			/
E>	364					9	565					5	70					575		
	366	Glu	Leu	Ala	Asp	Ser	Ala	Leu	Glu	Ile										$\nu$
B>					58						58	15								
		-211	1. 00	יה די					-		,									
					NO:		-													`
					1: 60	<sup>19</sup> /								<u> </u>		_		910,	$m \in \mathcal{C}$	
			2> TY						•					2	) _	, l	w		• •	•
	442	<213	3 > OF	RGANI	[SM:/	Mous	se Ir	itrac	ciste	ernal	l A-p	parti	cle	_	レブ	' 'Y		0.	_	Seimmany Leet.
					(								//	,	/ '	/	20	クァ	، من	
					`											C	/ Y C			Il an I
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Input Set : A:\PTO.RJ.txt

```
444 <220> FEATURE:
     445 <221> NAME/KEY: PEPTIDE
     446 <222> LOCATION: (1)..(609)
     447 <223> OTHER INFORMATION: 23 to 641 amino acid sequence of mouse
     450 <400> SEQUENCE: 5
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                                                                             15
E--> 452 1
     454 Leu Arg Gly Arg Gln His Gly Pro Asn Val Cys Ala Val Gln Lys Val
E--> 455
                        20
                                               25
     457 Ile Gly Thr Asn Arg Lys Tyr Phe Thr Asn Cys Lys Gln Trp Tyr Gln
B--> 458
                  35
                                          40
     460 Arg Lys Ile Cys Gly Lys Ser Thr Val Ile Ser Tyr Glu Cys Cys Pro
             50
E--> 461
                                     55
     463 Gly Tyr Glu Lys Val Pro Gly Glu Lys Gly Cys Pro Ala Ala Leu Pro
                                                                                  80
E--> 464 65
                                 70
     466 Leu Ser Asn Leu Tyr Glu Thr Leu Gly Val Val Gly Ser Thr Thr Thr
                                                                              95
E--> 467
                             85
                                                    90
     470 Gln Leu Tyr Thr Asp Arg Thr Glu Lys Leu Arg Pro Glu Met Glu Gly
B--> 471
                       100
                                               105
     473 Pro Gly Ser Phe Thr Ile Phe Ala Pro Ser Asn Glu Ala Trp Ala Ser
                 115
                                          120
E--> 474
     476 Leu Pro Ala Glu Val Leu Asp Ser Leu Val Ser Asn Val Asn Ile Glu
B--> 477
            130
                                     135
     479 Leu Leu Asn Ala Leu Arg Tyr His Met Val Gly Arg Arg Val Leu Thr
                                                                                 160
B--> 480 145
     482 Asp Glu Leu Lys His Gly Met Thr Leu Thr Ser Met Tyr Gln Asn Ser
                                                                            175
     485 Asn Ile Gln Ile His His Tyr Pro Asn Gly Ile Val Thr Val Asn Cys
                       180
                                               185
     488 Ala Arg Leu Leu Lys Ala Asp His His Ala Thr Asn Gly Val Val His
B--> 489
                 195
                                          200
     491 Leu Ile Asp Lys Val Ile Ser Thr Ile Thr Asn Asn Ile Gln Gln Ile
B--> 492
             210
                                     215
     494 Ile Glu Ile Glu Asp Thr Phe Glu Thr Leu Arg Ala Ala Val Ala Ala
                                                                                 240
B--> 495 225
     497 Ser Gly Leu Asn Thr Met Leu Glu Gly Asn Gly Gln Tyr Thr Leu Leu
                            245
                                                    250
                                                                            255
     500 Ala Pro Thr Asn Glu Ala Phe Glu Lys Ile Pro Ser Glu Thr Leu Asn
                       260
                                               265
    503 Arg Ile Leu Gly Asp Pro Glu Ala Leu Arg Asp Leu Leu Asn Asn His
                  275
                                          280
    506 Ile Leu Lys Ser Ala Met Cys Ala Glu Ala Ile Val Ala Gly Leu Ser
             290
                                     295
                                                             300
    509 Val Glu Thr Leu Glu Gly Thr Thr Leu Glu Val Gly Cys Ser Gly Asp
                                                                                320
E--> 510 305
                                310
    512 Met Leu Thr Ile Asn Gly Lys Ala Ile Ile Ser Asn Lys Asp Ile Leu
                            325
                                                    330
                                                                            335
    515 Ala Thr Asn Gly Val Ile His Tyr Ile Asp Glu Leu Leu Ile Pro Asp
B--> 516
                                                                       350
                      340
                                               345
```

Input Set : A:\PTO.RJ.txt

	518	Ser	Ala	Lys	Thr	Leu	Phe	Glu	Leu	Ala	Ala	Glu	Ser	Asp	Val	Ser	Thr	
E>	519			355	5					360	0					365		$\mathcal{L}$
	521	Ala	Ile	Asp	Leu	Phe	Arg	Gln	Ala	Gly	Leu	Gly	Asn	His	Leu	Ser	Gly	Ĭ.
E>	522		370	)					375						380			<i>'</i>
	524	Ser	Glu	Arg	Leu	Thr	Leu	Leu	Ala	Pro	Leu	Asn	Ser	Val	Phe	Lys	Asp	
B>	525	385		_				390					-	395		_	_	400
	527	Gly	Thr	Pro	Pro	Ile	Asp	Ala	His	Thr	Arq	Asn	Leu	Leu	Arg	Asn	His	<b>\</b>
E>		•					105				_		110		_			415
_		Ile	Ile	Lvs	Asp	Gln	Leu	Ala	Ser	Lvs	Tvr	Leu	Tvr	His	Glv	Gln	Thr	
E>				-1-	42					-1-		25			2		430	Į.
• •		I.e.i	Glu	Thr		-	Glv	Lys	Lvs	T.eu			Phe	Val	Tvr	Ara		
B>				43		0-1	1	-,-	-,-	44(					-1-	445		
		Ser	T.em			Glu	Δen	Ser	Cve			Δla	Hie	Δen	Lve		Glv	1
B>		Jei	450		110	Olu	71511	JCI	455		7,14	71.4			160	9	O. J	1
B>		۸۲۵			Thr	T.011	Dha	Thr		Λcn	Ara	Wa I	T.611	-		Pro	Met .	$\smile$
E>			TYL	Gly	1111	Deu		470	Mec	чэр	Arg	Vai		175	FIO	110	Mec	480
P>			Thr	Val	Mat	Acn		Leu	Lare	Gly	Aen	Acn			Sar	Mat	T.eu	100
E>		GLY	1111	vai	MEC		185	. Deu	цуэ	Gry	vab		190	FIIC	361	Mec	Dea	495
E>		17-1	ת [ ת	<b>71</b> 2	T10			ת דת	Clv	Lou	Thr			Tan	V C D	7~~	Glu	433
ъ.		vai	Ата	міа		00	261	Ala	Gry	beu		05 05	1111	,neu	HOII	ALG		1
E>		C1.,	tta l	Tree			Dho	מות	Dro.	Thr			פות	Dhe	720	<b>λ]</b> =	510 Leu	10 4
		GIA	vaı	-		vai	Pile	Ala	PIO	520		GIU	AIA	Pile	Arg		цец	18 auri
E>		Desa	Dwa	51		7	C	7	T 011			N a.m.	77-	T	C1	525	77-	1.20
		PIO			GIU	Arg	sei	Arg		rea	GIÀ	ASP	AIA	гуѕ		ьец	Ala	149
B>			530		<b>.</b>		77.5.	T1.	535		<b>a</b> 1	*1.	T	17-1	540	<b>~1</b>	C7	1.0
			ire	rea	ьys	Tyr		Ile	GIA	Asp	Giu	116			Ser	GIA	GIY	560
E>			Q1	21-	*	11-1		550	7	0		<b>~1</b> -		355	T	7	<b>~</b> 3	560
_		тте	GIY	Ala	ren		_	Leu	гуѕ	Ser	Leu			Asp	гÀг	Leu	GIU	
E>		17-1	0	T	T		365	*** 1	*** 1	C	17-7		570	G3	Dwa	17-1	77-	575
		vai	ser	Leu	-		ASII	Val	vai	Ser			гÀг	Giu	PIO	vai		
E>		<b>a</b> 1	D-1-	•		30		m\		<b>01</b>		85	***	**- 1	<b>-</b> 1_	mh	590	
_		GIU	Pro			met	Ата	Thr	Asn			vai	HIS	vai	He		ASn	
E>		17- 1		59	15					600	J					605		`,\
		Val	). CE	- TF		-												/
				EQ II														
				ENGTH		10												/
				PE:														/ .
						Arti	LIIC	ial S	seque	ence								\
				EATUR						1.0 -		( 2 25 )	•					/
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				EQUEN							_		_	_	~-3	_		\ /
			Thr	Pro	Pro	Met	GIA	Thr	Val	Met	Asp	Val		Lys	GIY	Asp	Asn	\ /
E>		_ 1	-1			_	5				~-	_	10	_,	_	1	~3	15 /
_		Arg	Phe	Ser			Val	Ala	Ala	Ile			Ala	GIY	Leu	Thr		1 (
E>			_	_		20						25	_ •	_			30	\
		Thr	Leu			Glu	Gly	Val	Tyr			Phe	Ala	Pro	Thr		Glu	\
E>				_	5					4 (	_					45		\
		Ala		Arg	Ala	Leu	Pro	Pro	Arg	Glu	Arg	Ser	Arg	Leu	Leu	Gly	Asp	\
E>			50						55						60			Ι,
	617	Ala	Lys	Glu	Leu	Ala	Asn	Ile	Leu	Lys	Tyr	His	Ile	Gly	Asp	Glu	Ile	/)
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Input Set : A:\PTO.RJ.txt

					-	='				-		•							`	\		
B>	618	65						70						75					80	\		
			Val	Ser	Gly	Glv	Tle		Δla	T.e.u	Val	Ara	T.e.1		Ser	Len	Gln			1		
B>		200	• • • •	001	0+1	<b>-</b> -1	85	Q-,		DC G	• • • •		90	-,-	002	200	01	95		1		
P>		Glv	Δsn	Lvs	Leu	Glu		Ser	Len	Lvc	Asn			Val	Ser	Val	Asn			1		
E>		0_1		_,_		00			200	_,,		05					110					
		Lvs	Glu	Pro	Val		Glu	Pro	Asp	Tle		-	Thr	Asn	Glv	Val						
B>		_,,			15					120						12	_					
		His	Val		Thr	Asn	Val	Leu	Gln			Ala	Asn							- 1		
B>			130						135						140					- 1	•	
		<21			D NO	: 8														- 1		
					H: 2																	
				YPE:																1		
					ISM:	Art:	ific	ial :	Seau	ence			•							1		
				EATU					•											-	_	
					INF	ORMA:	rion	: Be	taig	-h3 1	D-IV	(2X)	amiı	no a	cid s	seque	ence				•	
					NCE:				_							-						
	643	Leu	Thr	Pro	Pro	Met	Gly	Thr	Val	Met	Asp	Val	Leu	Lys	Gly	Asp	Asn					
B>		1					5					:	10					15				
	646	Arg	Phe	Ser	Met	Leu	Val	Ala	Ala	Ile	Gln	Ser	Ala	Gly	Leu	Thr	Glu					
E>	647				:	20					:	25			٠.		30			1		
	649	Thr	Leu	Asn	Arg	Glu	Gly	Val	Tyr	Thr	Val	Phe	Ala	Pro	Thr	Asn	Glu			1		
E>	650			3	5					4 (	0					45				1		
	652	Ala	Phe	Arg	Ala	Leu	Pro	Pro	Arg	Glu	Arg	Ser	Arg	Leu	Leu	Gly	Asp			1		
B>			50						55						60		_					
			Lys	Glu	Leu	Ala	Asn	Ile	Leu	Lys	Tyr	His	Ile	Gly	Asp	Glu	Ile			7		
E>			_				_	70	_				_	75	_	_			80	- {		
		Leu	Val	Ser	Gly	Gly		Gly	Ala	Leu	Val.			Lys	Ser	Leu	GIn			\	Lawe	
B>			_	_	_	_,	85						90	1				95		\ \	$\lambda^{\omega}$	ĺ
_		GIY	Asp	Lys	Leu		Val	Ser	Leu	rys			vaı	vai	ser	vaı				/•	- 4 20	
B>		T	<b>~1</b>	D		00	<b>~</b> 1	D	3	T1.		05	mh	B ===	<b>~</b> 3	17.01	110			1	0	
ъ.		гуѕ	GIU		Val	Ald	GIU	PIO	Asp	120		Ald	1111	ASII	Gry	125	vai			1	ı	
B>		uic	17 - 7		15 Thr	7 cn	Wal	Lou	Gln			λla	Acn	T.611	Thr		Pro			ļ		
B>		nis	130		1111	ASII	Vai	Deu	135	FIO	FLO	AIG	ASII	деа	140	110	110			i		
B>		Met		Thr	Val	Met	Asn	Val		Lvs	Glv	Asn	Asn	Ara		Ser	Met					
B>			O <sub>1</sub>		741		_	150	204	2,0	<b>U</b> -1			155					160			
			Val	Ala	Ala	Ile			Ala	Glv	Leu	Thr			Leu	Asn	Arg					
E>							165			,			70				· - 3	175				
		Glu	Gly	Val	Tyr			Phe	Ala	Pro	Thr	Asn	Glu	Ala	Phe	Arg	Ala					
E>			-			30						85				_	190					
	679	Leu	Pro	Pro	Arg	Glu	Arg	Ser	Arg	Leu	Leu	Gly	Asp	Ala	Lys	Glu	Leu			- 1	ı	
B>					95					200						205				- 1		
	682	Ala	Asn	Ile	Leu	Lys	Tyr	His	Ile	Gly	Asp	Glu	Ile	Leu	Val	Ser	Gly			- 1		
E>			210				•		215						220					- 1		
	685	Gly	Ile	Gly	Ala	Leu	Val	Arg	Leu	Lys	Ser	Leu	Gln	Gly	Asp	Lys	Leu					
E>	686	225					2	230		•			2	235					240	1		
		Glu	Val	Ser	Leu	_		Asn	Val	Val	Ser	Val	Asn	Lys	Glu	Pro	Val			/		
B>							245						50			_		255		/		
	691	Ala	Glu	Pro	Asp	Ile	Met	Ala	Thr	Asn	Gly	Val	Val	His	Val	Ile	Thr					

Input Set : A:\PTO.RJ.txt

										•		•								1	
B>	692				:	260					2	65					270			1	
_		Asn	Val	Leu	Gln	Pro	Pro	Ala	Asn											1	
B>	695			2	75					28	0									1	
_		<21	0 > SI	EQ II	D NO	: 9														1	
			1> LI																!	ĺ	
	700	<21	2> T	YPE:	PRT															ļ	
	701	<21	3 > 01	RGAN	ISM:	Art	ific	ial :	Seque	ence											
			0> F1																		
	704	<22	3 > 0	THER	INF	ORMA'	TION	: Be	taig	-h3 1	D-IV	(3X)	ami	no a	cid s	seque	ence		- 1	 	
			0 > SI																- 1	ł	
	708	Leu	Thr	Pro	Pro	Met	Gly	Thr	Val	Met	Asp	Val	Leu	Lys	Gly	Asp	Asn				
E>	709	1					5						10					15			
	711	Arg	Phe	Ser	Met	Leu	Val	Ala	Ala	Ile	Gln	Ser	Ala	Gly	Leu	Thr	Glu			l	
E>	712				:	20					:	25					30				
	714	Thr	Leu	Asn	Arg	Glu	Gly.	Val	Tyr	Thr	Val	Phe	Ala	Pro	Thr	Asn	Glu			1	
B>				3						4	-				•	45				1	
	717	Ala	Phe	Arg	Ala	Leu	Pro	Pro	Arg	Glu	Arg	Ser	Arg	Leu	Leu	Gly	Asp			1	
E>			50						55						60						
	720	Ala	Lys	Glu	Leu	Ala	Asn	Ile	Leu	Lys	Tyr	His	Ile	Gly	Asp	Glu	Ile			1	
B>	721	65						70						75		•			80	1	
	723	Leu	Val	Ser	Gly	Gly	Ile	Gly	Ala	Leu	Val	Arg	Leu	Lys	Ser	Leu	Gln			1	
E>	724						85						90					95		- 1	
	726	Gly	Asp	Lys	Leu	Glu	Val	Ser	Leu	Lys	Asn	Asn	Val	Val	Ser	Val	Asn			- 1	
E>	727				10	00					1	05					110			\	•
	729	Lys	Glu	Pro	Val	Ala	Glu	Pro	Asp	Ile	Met	Ala	Thr	Asn	Gly		Val				_
E>					15					12						125				7	7
	732	His	Val	Ile	Thr	Asn	Val	Leu	Gln	Pro	Pro	Ala	Asn	Leu	Thr	Pro	Pro			- 1	
B>			130						135		_			_	140	_					
			Gly	Thr	Val	Met	_		Leu	Lys	Gly	Asp		_	Phe	Ser	Met .			1	فرر کی
E>			_		=			150			_			155	_	_	_	•	160	1	You
_		Leu	Val	Ala	Ala		Gln	Ser	Ala	Gly	Leu			Thr	Leu	Asn	Arg			. '	1. 4.2
B>					_ `		165	_,		_			170		<b>51.</b> -	,		, 175			1
		Glu	Gly	vai			Val	Pne	Ala	Pro			GIU	Ата	Pne	Arg					1
B>				D		80	3	0		<b>.</b>		85 - 33	7	<b>17</b> -	T	C1	190				
_		Leu	Pro		_	GIU	Arg	ser	Arg			GIY	Asp	Ala	ьys		Leu				
B>					95	<b>T</b>	m	T7.5 -	<b>~3</b> .	20	_	<b>~</b> 3	<b>+</b> 1.	•	17-7	205	C1				İ
_					Leu	ьys	Tyr	HIS		GIY	Asp	GIU	iie	Leu		ser	GIY				1
B>			210		.1.	T	777	<b>3</b>	215	<b>7</b>	0	*	a1	·a1	220	T	T on				1
_		-	Пе	GIY	Ala	Leu	Val	_	ьеи	гуѕ	ser	Leu			Asp	ьys	Leu		240		}
E>			••- 3	<b>.</b>	T	T		230	**- 1	77-3	0	**- 7		235	C1	Dwo	1701		240		{
_		GIu	vai			_	Asn			vaı	ser			-	GIU	PIO	vai	255		l	l
B>			<b>~1</b>			•	245			•	<b>a</b> 1		250		7707	<b>T</b> 1 4	mb ~	255			
_		Ala	GIU	Pro	_		Met	Ala	Thr	Asn	_		vai	HIS	vai	116				- 1	
B>		<b>.</b> .	**- *	7		00	Desc	<b>5</b> 1-	<b>3</b>	<b>.</b>		65	D	W-t	C1	Th	270			- 1	
			val			Pro	Pro	Ala	Asn			Pro	Pro	met	GIY		val			/	
E>			•		75	*	C1	n	<b>N</b>	28		<b>G</b>	<b>14</b> - 4	T	37-7	285	71 ~				
-		met			ьeu	ьys	Gly	ASP		arg	rne	ser	met	ьeu		AIG	AIG				
B>		~ ~	290			<b>~1.</b>	*	m1	295	m)	•			<b>~</b> 3	300	17-1	Tr				
	765	тте	GIn	ser	AIA	GIA	Leu	Thr	GIU	Thr	ьeu	Asn	Arg	GIU	GTÅ	vaı	TAL				

Input Set : A:\PTO.RJ.txt

Output Set: N:\CRF4\02272007\J511719A.raw 320 E--> 766 305 310 315 768 Thr Val Phe Ala Pro Thr Asn Glu Ala Phe Arg Ala Leu Pro Pro Arg 330 325 335 771 Glu Arg Ser Arg Leu Leu Gly Asp Ala Lys Glu Leu Ala Asn Ile Leu 340 345 B--> 772 774 Lys Tyr His Ile Gly Asp Glu Ile Leu Val Ser Gly Gly Ile Gly Ala 355 B--> 775 360 777 Leu Val Arg Leu Lys Ser Leu Gln Gly Asp Lys Leu Glu Val Ser Leu 370 E--> 778 375 780 Lys Asn Asn Val Val Ser Val Asn Lys Glu Pro Val Ala Glu Pro Asp 400 E--> 781 385 390 783 Ile Met Ala Thr Asn Gly Val Val His Val Ile Thr Asn Val Leu Gln 415 E--> 784 405 786 Pro Pro Ala Asn 787 420 790 <210> SEQ ID NO: 10 791 <211> LENGTH: 560 792 <212> TYPE: PRT 793 <213> ORGANISM: Artificial Sequence 795 <220> FEATURE: 796 <223> OTHER INFORMATION: Betaig-h3 D-IV(4X) amino acid sequence 799 <400> SEQUENCE: 10 800 Leu Thr Pro Pro Met Gly Thr Val Met Asp Val Leu Lys Gly Asp Asn 15 E--> 801 1 803 Arg Phe Ser Met Leu Val Ala Ala Ile Gln Ser Ala Gly Leu Thr Glu E--> 804 806 Thr Leu Asn Arg Glu Gly Val Tyr Thr Val Phe Ala Pro Thr Asn Glu 35 809 Ala Phe Arg Ala Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly Asp E--> 810 50 55 812 Ala Lys Glu Leu Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu Ile 80 B--> 813 65 75 815 Leu Val Ser Gly Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu Gln 95 B--> 816 . 818 Gly Asp Lys Leu Glu Val Ser Leu Lys Asn Asn Val Val Ser Val Asn

105

185

155

170

821 Lys Glu Pro Val Ala Glu Pro Asp Ile Met Ala Thr Asn Gly Val Val

824 His Val Ile Thr Asn Val Leu Gln Pro Pro Ala Asn Leu Thr Pro Pro

135

150

165

827 Met Gly Thr Val Met Asp Val Leu Lys Gly Asp Asn Arg Phe Ser Met .

830 Leu Val Ala Ala Ile Gln Ser Ala Gly Leu Thr Glu Thr Leu Asn Arg

833 Glu Gly Val Tyr Thr Val Phe Ala Pro Thr Asn Glu Ala Phe Arg Ala

836 Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly Asp Ala Lys Glu Leu

839 Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu Ile Leu Val Ser Gly

120

200

100

180

115

195

130

E--> 819

E--> 822

B--> 825

B--> 834

E--> 837

E--> 828 145

160

175

Input Set : A:\PTO.RJ.txt

																		•	
B>	840		21	0					215						220				
	842	Gly	Ile	Gly	Ala	Leu	Val	Arg	Leu	Lys	Ser	Leu	Gln	Gly	Asp	Lys	Leu		
B>	843	225					:	230					- 2	235					240
	845	Glu	Val	Ser	Leu	Lvs	Asn	Asn	Val	Val	Ser	Val	Asn	Lvs	Glu	Pro	Val		
B>							245						250	2				255	
B>			Glu	Dro	Acn			Ala	Thr	Acn	Gly			Hic	Wa I	Tla	Thr	200	
		AIA	GIU	FIO	-	260	Mec	ALG	1111	Yall	-		Vai	1113	vai	110	270	•	
E>							<b>D</b>			<b>.</b>	26	-			<b>~</b> 1	m\			
		Asn	vaı			Pro	Pro	Ala	Asn			Pro	Pro	met	GIY		vai		
B>					75					280						285			
	854	Met	Asp	Val	Leu	Lys	Gly	Asp	Asn	Arg	Phe	Ser	Met	Leu	Val	Ala	Ala		
E>	855		290						295						300				
	857	Ile	Gln	Ser	Ala	Gly	Leu	Thr	Glu	Thr	Leu	Asn	Arg	Glu	Gly	Val	Tyr		
E>						_		310						315			_		320
	860	Thr	Val	Phe	Ala	Pro	Thr	Asn	Glu	Ala	Phe	Ara	Ala	Leu	Pro	Pro	Ara		
B>							325						330					335	
		Glu	Δra	Ser	Δτα			Gly	Aen	Δla	Lve	_		Δla	Δen	Tle	T.em		
		GIU	n. g	Der			Deu	019	, asp	AIG		15	пец	AIG	ASII	110	350		
B>						40		<b>61</b>	<b>-</b> 3 -	•			~7	<b>~</b> 1	~1-	<b>~</b> 1		•	
		ьуs	Tyr			GIY	Asp	Glu	тте			ser	GIY	GIY	11e		AIA		
E>				35						360	-			_	_	365			
	869	Leu	Val	Arg	Leu	Lys	Ser	Leu	Gln	Gly	Asp	Lys	Leu	Glu	Val	Ser	Leu		
B>	870		370						375						380				
	872	Lys	Asn	Asn	Val	Val	Ser	Val	Asn	Lys	Glu	Pro	Val	Ala	Glu	Pro	Asp		
B>	873	385					:	390					3	395					400
	875	Ile	Met	Ala	Thr	Asn	Gly	Val	Val	His	Val	Ile	Thr	Asn	Val	Leu	Gln		
E>	876						405					4:	LO					415	
	878	Pro	Pro	Ala	Asn	Leu	Thr	Pro	Pro	Met	Glv	Thr	Val	Met	Asp	Val	Leu		
B>						20					42				-		430		
		Lvs	Glv	Asp			Phe	Ser	Met	Leu			Ala	Ile	Gln	Ser			
B>		-,,	1	43		3				. 44(						445			
		Gly	Lau			Thr	Leu	Asn	Ara			17 = 3	Tur	Thr	T-1		Δla		
E>		Gry	456		GIU	1111	Dea	non	455	Olu	Gry	vai	- y -		460	1110	1124		·
B>		D=0			C1	71-	Dho	70		T 011	Dwo	Dwo	7 ~~~	C1		C0~	7~~		
			Int	ASII	GIU	Ala		Arg	Ala	rea	PIO	PIO			Arg	ser	Arg		400
E>			_		_			470	_		_			175	_				480
		Leu	Leu	GIY	Asp		-	Glu	Leu	Ala	Asn			rys	Tyr	His	Tie		
E>							185					4.9			_			495	
	893	Gly	Asp	Glu	Ile	Leu	Val	Ser	Gly	Gly	Ile	Gly	Ala	Leu	Val	Arg	Leu		
B>						00					50	_					510		
	896	Lys	Ser	Leu	Gln	Gly	Asp	Lys	Leu	Glu	Val	Ser	Leu	Lys	Asn	Asn	Val		
E>	897			515	5					520	)					525			
	899	Val	Ser	Val	Asn	Lys	Glu	Pro	Val	Ala	Glu	Pro	Asp	Ile	Met	Ala	Thr		
B>	900		530	)					535						540				
	902	Asn	Gly	Val	Val	His	Val	Ile	Thr	Asn	Val	Leu	Gln	Pro	Pro	Ala	Asn		
B>			-					550					5	555					560
			)> SE	EQ II	NO:	11							_	_		٠,	~~		
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RAW SEQUENCE LISTING

DATE: 02/27/2007

PATENT APPLICATION: US/10/511,719A

TIME: 11:08:37

Input Set : A:\PTO.RJ.txt

Output Set: N:\CRF4\02272007\J511719A.raw

B--> 913 1 916 <210> SEQ ID NO: 12 917 <211> LENGTH: 4 918 <212> TYPE: PRT 919 <213> ORGANISM: peptide 921 <400> SEQUENCE: 12 922 Glu Pro Asp Ile 923 E--> 927 19 B--> 930 1

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/511,719A

DATE: 02/27/2007

TIME: 11:08:38

Input Set : A:\PTO.RJ.txt

L:927 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:12

M:332 Repeated in SeqNo=12

Output Set: N:\CRF4\02272007\J511719A.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application No L:9 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:20 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:1 M:332 Repeated in SeqNo=1 L:259 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:3 M:332 Repeated in SeqNo=3 L:452 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:5 M:332 Repeated in SeqNo=5 L:606 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:7 M:332 Repeated in SeqNo=7 L:644 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:8 M:332 Repeated in SeqNo=8 L:709 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:9 M:332 Repeated in SeqNo=9 L:801 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:10 M:332 Repeated in SeqNo=10 L:913 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:11